

Lake Jackson Lake Vegetation Index Results (8-14-2017)

The Lake Vegetation Index (LVI) is a multi-metric index that evaluates how closely a lake's plant community resembles one that would be expected in a condition of minimal human disturbance. It is based on a rapid field assessment of aquatic and wetland plants as indicators of various effects of human disturbance over time. Plants respond to physical disturbances such as introduction of exotic species or lakeshore alterations,

and chemical disturbance such as introduction of excess nutrients, particulates, or herbicides from the surrounding land uses.

The LVI method is performed from a boat, and involves dividing a lake into 12 units and identifying plants in 4 of the 12 units (Figure 1). Plants are identified in the selected unit by a visual boat "drive by" and also via a transect approach. The resulting data is used to calculate the LVI and is evaluated according to the scoring system in Table 1.

TABLE 1. Category names, ranges of values for LVI, and example descriptions of biological conditions typically found for that category.

Aquatic life use category	LVI Range	Description
Exceptional	78–100	Nearly every plant present is a species native to Florida, invasive taxa typically not found. About 30% of taxa present are identified as sensitive to disturbance.
Healthy	43–77	About 85% of plant taxa are native to Florida; invasive taxa present. Sensitive taxa have declined to about 15%.
Impaired	0–42	About 70% of plant taxa are native to Florida. Invasive taxa may represent up to 1/3 of total taxa. Less than 10% of the taxa are sensitive.

The Lake Vegetation Index score for Lake Jackson was 54, placing the lake's vegetative community in the healthy category.

Seventy six species were found during the survey. The native species, fragrant waterlily (*Nymphaea odorata*), American lotus (*Nelumbo lutea*), fanwort (*Cabomba caroliniana*) and watershield (*Brasenia schreberi*) were the most dominant species in the lake. Other native vegetation included; red maple (*Acer rubrum*), buttonbush (*Cephalanthus occidentalis*) and coastal plain willow (*Salix carolina*).

Unfortunately, Chinese tallow tree (*Sapium sebiferum*), wild taro (*Colocasia esculenta*), hydrilla (*Hydrilla verticillata*), and water

hyacinth (*Eichhornia crassipes*), are listed as Category I Invasive Exotics by the Florida Exotic Pest Control Council <http://www.fleppc.org/> and were found in Lake Jackson. Alligator weed (*Alternanthera philoxeroides*) is a Category II Invasive Exotic that was found in the lake. Additionally, the exotic yellow nutsedge (*Cyperus esculentus*), water spangles (*Salvinia minima*), parrot feather milfoil (*Myriophyllum aquaticum*), burhead sedge (*Oxycaryum cubense*) and sow thistle (*Sonchus* sp.) were found in and near the lake.

For a complete list of plants found during the LVI survey, please see Table 2.

TABLE 2. Scientific and common names of the plants identified during the Lake Jackson LVI survey (8-14-17). Names in bold are plants nonnative to Florida.

Scientific Name	Common Name
<i>Acer rubrum</i>	red maple
<i>Alternanthera philoxeroides</i>(II)	alligator weed
<i>Ampelopsis arborea</i>	peppervine
<i>Baccharis halimifolia</i>	eastern baccharis
<i>Bacopa caroliniana</i>	lemon bacopa
<i>Bidens mitis</i>	smallfruit beggartick
<i>Boehmeria cylindrica</i>	false nettle
<i>Brasenia schreberi</i>	watershield
<i>Cabomba caroliniana</i>	fanwort
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Ceratophyllum demersum</i>	coontail
<i>Colocasia esculenta</i> (I)	wild taro
<i>Cyperus esculentus</i>	yellow nutsedge
<i>Cyperus</i> sp.	flatsedge
<i>Diospyros virginiana</i>	common persimmon
<i>Echinochloa crusgalli</i>	barnyard grass
<i>Echinochloa walteri</i>	coast cockspur grass
<i>Eichhornia crassipes</i> (I)	water hyacinth
<i>Eleocharis baldwinii</i>	road-grass
<i>Erechtites hieracifolia</i>	American burnweed
<i>Eriocaulon decangulare</i>	ten-angled pipewort
<i>Eupatorium capillifolium</i>	dogfennel
<i>Gelsemium sempervirens</i>	evening trumpet flower
<i>Gordonia lasianthus</i>	loblolly bay
<i>Habenaria repens</i>	water spider orchid
<i>Hibiscus moscheutos</i>	crimson-eyed rose-mallow
<i>Hydrilla verticillata</i> (I)	hydrilla
<i>Hydrocotyle</i> sp.	water pennywort
<i>Hypericum</i> sp.	St. Johns wort

<i>Ipomoea</i> sp.	morning glories
<i>Juncus effusus</i>	common rush
<i>Juncus marginatus</i>	grassleaf rush
<i>Limnobia spongia</i>	frog's bit
<i>Liquidambar styraciflua</i>	American sweetgum
<i>Ludwigia arcuata</i>	needleleaf ludwigia
<i>Ludwigia decurrens</i>	wingleaf primrose willow
<i>Ludwigia leptocarpa</i>	anglestem primrose willow
<i>Ludwigia suffruticosa</i>	shrubby primrose willow
<i>Myriophyllum aquaticum</i>	parrot feather water-milfoil
<i>Myriophyllum heterophyllum</i>	twoleaf watermilfoil
<i>Nelumbo lutea</i>	American lotus
<i>Nuphar</i> sp.	spatterdock
<i>Nymphaea odorata</i>	fragrant waterlily
<i>Nymphoides aquatica</i>	banana lilly
<i>Oxycaryum cubense</i>	burhead sedge
<i>Panicum hemitomon</i>	maidencane
<i>Phyllanthus urinaria</i>	chamber bitter
<i>Polygonum densiflorum</i> (glabrum)	denseflower knotweed
<i>Polygonum hirsutum</i>	hairy smartweed
<i>Polygonum hydropiperoides</i>	swamp smartweed
<i>Polygonum punctatum</i>	dotted smartweed
<i>Pontederia cordata</i>	pickerelweed
<i>Quercus nigra</i>	water oak
<i>Quercus virginiana</i>	southern live oak
<i>Rhexia</i> sp.	meadowbeauty
<i>Rhynchospora inundata</i>	narrowfruit horned beaksedge
<i>Ricciocarpus natans</i>	purple-fringed riccia
<i>Sagittaria filiformis</i>	threadleaf arrowhead
<i>Sagittaria lancifolia</i>	duck potato
<i>Sagittaria latifolia</i>	broadleaf arrowhead

Scientific Name	Common Name
<i>Salix carolina</i>	coastal plain willow
<i>Salix nigra</i>	black willow
<i>Salvinia minima</i>	water spangles
<i>Sambucus canadensis</i> subsp. <i>nigra</i>	American elderberry
<i>Sapium sebiferum</i> (I)	Chinese tallow tree
<i>Scirpus cyperinus</i>	woolgrass
<i>Sesbania herbacea</i>	bigpod sesbania
<i>Sonchus</i> sp.	sow thistle
<i>Strophosyles umbellata</i>	pink fuzzybean

<i>Taxodium ascendens</i>	pond cypress
<i>Taxodium distichum</i>	bald cypress
<i>Typha</i> sp.	cattail
<i>Utricularia biflora</i> (<i>U. gibba</i>)	humped bladderwort
<i>Utricularia floridana</i>	Florida yellow bladderwort
<i>Utricularia foliosa</i>	leafy bladderwort
<i>Vitis rotundifolia</i>	muscadine
<i>Xyris jupicai</i>	Richard's yelloweyed grass

Names in bold are exotic species.

I - Category I Invasive Exotics

II - Category II Invasive Exotics

For additional information about the LVI please go to the Florida Department of Environmental Protection webpage;
http://www.dep.state.fl.us/water/sas/training/docs/lvi_primer.pdf. For additional information about exotic Category I and Category II invasive exotic plants, please go to the Florida Exotic Pest Plant Council
<http://www.fleppc.org/list/list.htm>.



FIGURE 1. Lake Jackson showing unit divisions. Circled numbers denote surveyed units.